

# **Advanced Microstrip Array Antennas**

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The microstrip array antenna, in addition to its well-known advantage of physical compactness, has advanced its capability to achieve circular polarization, dual-polarization, and dual-frequency operations with much reduced complexity than many other types of array antennas. Even its well-known disadvantage of narrow bandwidth, due to the technology advancement in the past decade, has been improved from a few percent to tens of percent. Furthermore, because the small size of its radiating element, the microstrip array has recently found another horizon: the capability of integration with other technologies, such as inflatable structure, reflectarray, solar array, etc., to improve overall system performance. Several advanced microstrip arrays that have recently been developed are: an L-band microstrip Yagi array mobile antenna, a 0.5m Ka-band microstrip reflectarray, a P-band 4-element microstrip array with nearly 50% of bandwidth, an L-band 3m x 1m inflatable microstrip array, and a 1m X-band inflatable microstrip reflectarray. These advanced antennas and a few others will be presented.

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